

IN THE CLAIMS:

Please amend claims 1-22 and add new claim 23 as follows:

1. (Currently amended) A method for the optical inspection of a transparent protective layer (14) and of a colored patterned surface (12), whereby the transparent protective layer (14) at least partially covers the colored patterned surface (12), said method using a first source of illumination (40) and ~~an~~ a first imaging sensor (42) associated with the first source of illumination, said method comprising the steps of:

~~characterized in that,~~

illuminating said protective layer with light emitted by the first source of illumination in order to recognize defective places (30) inside and beneath the transparent protective layer (14),
~~the protective layer (14) is illuminated with light emitted by the source of illumination (40),~~
~~whereby the~~ said first source of illumination (40) emits emitting shortwaved light in the range that is visible for the first imaging sensor, (42) ~~and the light striking the~~ said surface penetrates
penetrating at least partially into the protective layer (14) and ~~is scattered~~ scattering at the defective places (30), ~~in that ;~~

picking up light scattered back from the defective places (30) ~~is picked up by~~ with the
first imaging sensor (42); and ~~in that the defective places (30) are recognized~~

recognizing the defective places by the local increase in the intensity of the light picked up by the first imaging sensor (42) in the area of the defective places (30).

2. (Currently amended) The method according to Claim 1, ~~characterized in that~~ wherein the first imaging sensor (42) associated with the first source of illumination (40) is essentially only sensitive to light emitted in the wavelength range of the first source of illumination (40).

3. (Currently amended) The method according to ~~one of Claims 1 to 2,~~ characterized in that
Claim 1, wherein the first source of illumination (40) and the first imaging sensor (42) associated

with the first source of illumination (40) are arranged perpendicularly above the surface of the transparent protective layer (14).

4. (Currently amended) The method according to ~~one of Claims 1 to 3~~, characterized in that Claim 1, wherein the defective places (30) in the transparent protective layer (14) are turbid places.

5. (Currently amended) The method according to ~~one of Claims 1 to 4~~, characterized in that Claim 1, wherein the light emitted by the first source of illumination (40) is imaged in the form of a line on the surface of the transparent protective layer (14) and ~~in that~~ the widening of the line caused by the back-scattered light in the area of the defective places (30) is detected on the surface of the protective layer (14) by the first imaging sensor (42).

6. (Currently amended) The method according to ~~one of Claims 1 to 5~~, characterized in that Claim 1, wherein a second source of illumination (46) is provided that emits light at a first wavelength (λ_1) that excites the protective layer (14) to fluoresce with light at a second wavelength (λ_2) that is different from the first wavelength, ~~in that~~ the fluorescent light is picked up by ~~an~~ a second imaging sensor associated with the second source of illumination (46), and ~~in that~~ defective places (50) in the transparent protective layer (14) are recognized on the basis of local changes in the intensity of the fluorescent light.

7. (Currently amended) The method according to Claim 6, ~~characterized in that~~ wherein the second imaging sensor associated with the second source of illumination (46) has greater sensitivity in the wavelength range of the second wavelength (λ_2) than in the wavelength range of the first wavelength (λ_1).

8. (Currently amended) The method according to ~~one of Claims 6 or 7~~, characterized in that Claim 6, wherein the light emitted by the second source of illumination (46) is imaged in the form of a line on the surface of the transparent protective layer (14) and ~~in that~~ the change in the intensity of the line on the surface of the transparent layer (14) caused by changes in the intensity of the fluorescent light is detected by the second imaging sensor.

9. (Currently amended) The method according to ~~one of Claims 6 to 8, characterized in that~~ Claim 6, wherein the defective places (50) are areas on the colored patterned surface which are not covered by the transparent protective layer (14).

10. (Currently amended) The method according to ~~one of the preceding claims, characterized in that~~ Claim 6, wherein a single source of illumination (41) is employed as the first source of illumination (40) and as the second source of illumination (46).

11. (Currently amended) The method according to ~~one of the preceding claims, characterized in that~~ Claim 1, wherein color defects in the colored patterned surface (12) are detected by a color-capable imaging sensor (20).

12. (Currently amended) The method according to ~~one of the preceding claims, characterized in that~~ Claim 6, wherein, in order to detect defects on the surface of the transparent protective layer (14), a third source of illumination (24) emits a directed beam of light that is reflected off the surface of the protective layer (14), ~~in that the~~ said reflected light is being picked up by ~~an a~~ a third imaging sensor (26) associated with the third source of illumination (24), and ~~in that~~ the defects on the surface of the transparent protective layer (14) are recognized on the basis of changes in the intensity of the light picked up by the third imaging sensor (26).

13. (Currently amended) The method according to ~~one of the preceding claims, characterized in that~~ Claim 12, wherein various said first, second and third imaging sensors (20, 26, 42) with their associated sources of illumination (18, 24, 41) are shielded from each other.

14. (Currently amended) The method according to Claim 13, ~~characterized in that the various~~ wherein said first, second and third imaging sensors (20, 26, 42) with their associated sources of illumination (18, 24, 41) are shielded from each other in that they operate at different, non-overlapping wavelength ranges.

15. (Currently amended) The method according to Claim 14, ~~characterized in that the first~~ wherein a single source of illumination is employed as the first source of illumination and as the

second source of illumination and said single source of illumination (41) and the third source of illumination (24) emit light in different, non-overlapping wavelength ranges and ~~in that the~~ first and third imaging sensors (42, 26) associated with the first and third sources of illumination (41, 24) are sensitive in different, non-overlapping wavelength ranges.

16. (Currently amended) The method according to ~~one of the preceding claims,~~ characterized ~~in that~~ Claim 1, wherein the colored patterned surfaces (12) and the transparent protective layer (14) are parts of laminate floor covering elements, whereby these laminate floor covering elements (10) comprise wood or plastic substrate elements (10) onto which multi-colored printed films (11) with a colored patterned surface (12) are arranged and which are covered by a transparent protective layer (14).

17. (Currently amended) The method according to ~~one of the preceding claims,~~ characterized ~~in that~~ Claim 1, wherein the surface of the transparent protective layer (14) is provided with an embossed structure.

18. (Currently amended) An arrangement for the optical inspection of a transparent protective layer (14) and of a colored patterned surface (12), whereby the transparent protective layer (14) at least partially covers the colored patterned surface (12), said arrangement comprising a first source of illumination (40) and ~~an~~ a first imaging sensor (42) associated with the first source of illumination (40), ~~whereby~~ the emission spectrum of the first source of illumination (40) ~~encompasses~~ encompassing shortwaved light that is visible for the first imaging sensor (42), ~~and whereby the first imaging sensor (42) picks picking up~~ light scattered back from defective places (30) inside and beneath the transparent protective layer (14), and the defective places (30) can be recognized by the local increase in the intensity of the light picked up by the first imaging sensor (42) in the area of the defective places (30).

19. (Currently amended) The arrangement according to Claim 18, ~~characterized in that~~ wherein a second source of illumination (46) is arranged at a distance from the transparent protective layer (14) to be inspected, ~~whereby~~ the second source of illumination (46) ~~emits~~ emitting light at a first wavelength that excites the protective layer (14) to fluoresce with light at

a second wavelength that is different from the first wavelength, and ~~in that an~~ a second imaging sensor associated with the second source of illumination (46) ~~is provided that is~~ arranged in such a way that it can pick up the fluorescent light of the protective layer (14), whereby defective places (30) in the transparent protective layer (14) can be recognized by local changes in the intensity of the fluorescent light.

20. (Currently amended) The arrangement according to ~~one of Claims 18 or 19, characterized in that~~ Claim 18, wherein a color-capable imaging sensor (20) is provided for detecting color defects in the colored patterned surface (12).

21. (Currently amended) The arrangement according to ~~one of Claims 18 to 20, characterized in that~~ Claim 19, wherein a third source of illumination (24) is arranged at a distance from the transparent protective layer (14) to be inspected, ~~in that an~~ and a third imaging sensor (26) associated with the third source of illumination (46) is ~~likewise~~ arranged at a distance and at the same angle as the third source of illumination (24) in terms of the protective layer (14) to be inspected, ~~and whereby the~~ said third imaging sensor (26), for purposes of detecting defects on the surface of the protective layer, ~~can pick~~ picks up the light that has been emitted by the third source of illumination (24) and that has been reflected off the surface of the protective layer (14).

22. (Currently amended) The arrangement according to ~~one of Claims 19 to 20, characterized in that~~ Claim 21, wherein a color-capable imaging sensor is provided for detecting color defects in the colored patterned surface and said color-capable imaging sensor, said first and third ~~various~~ imaging sensors (20, 26, 42) with their associated sources of illumination (46, 24, 40) are optically shielded from each other.

23. (New) The arrangement according to Claim 19; wherein a color-capable imaging sensor is provided for detecting color defects in the colored patterned surface.